

ADDITIONAL NOTES ON THE ERIOCAULACEAE. VII

Harold N. Moldenke

Abbreviations for the names of herbaria used in this series of notes in addition to those listed in previous numbers (I, III, IV, V) and in my booklet entitled "A list showing the location of the principal collections of Verbenaceae and Avicenniaceae" (1942) and my booklet entitled "A list showing the location of the principal collections of Verbenaceae, Avicenniaceae, Stilbaceae, Symphoremaceae, and Eriocaulaceae. Supplement 1" (1947) are as follows: Ak = Alan Hancock Foundation, University of Southern California, Los Angeles, California; Be = Instituto Agronomico do Norte, Belém, Pará, Brazil; Bh = Instituto Agronomico do Servico Publica de Estado, Belo Horizonte, Minas Geraes, Brazil; Bj = B. J. Bayer herbarium, Jamaica, New York; Bv = Bureau of Plant Industry Station, Beltsville, Maryland; Bz = Herbarium Bogoriense, Buitenzorg, Java, Indonesia; Cz = Canal Zone Biological Area, Barro Colorado Island, Balboa, Canal Zone, Panama; En = J. Ewan herbarium, New Orleans, Louisiana; Er = Palynologiska Laboratoriet, Bromma, Sweden; Ew = Erik Wall herbarium, Stockholm, Sweden; Fo = Instituto Botanico della Universita, Florence, Italy; Fy = University of Arkansas, Fayetteville, Arkansas; Ho = R. A. Howard herbarium, Cambridge, Massachusetts; Hv = Academia de Ciencias, Havana, Cuba; Jn = Aage Bohus-Jensen herbarium, Lyngbye, Denmark; Ku = Eberhard Kausel herbarium, Santiago, Chile; Li = Colegio Salesiano, Lima, Peru; Lw = University of Kansas, Lawrence, Kansas; Mb = Melbourne Botanic Garden, Melbourne, Victoria, Australia; Mh = Matuda Herbarium, Instituto Biologico, Escuintla, Chiapas, Mexico; Mk = Frank C. MacKeever herbarium, Mount Vernon, New York; Pc = Philip Cheitman herbarium, New York City; Pi = Polytechnic Institute of Puerto Rico, San Germán, Puerto Rico; Pn = Parque Nacional da Serra dos Orgãos, Terezopolis, Brazil; Qu = H. Flecker herbarium, Cairns, Queensland, Australia; Rb = Colegio Anchieta, Porto Alegre, Rio Grande do Sul, Brazil; Rl = Herbario Ruiz Leal, Codoy Cruz, Mendoza, Argentina; Sc = Colegio Notra Señora de la Caridad, Santiago de Cuba; Sf = Servico Florestal do Estado, São Paulo, Brazil; Ss = Science Service, Department of Agriculture, Ottawa, Ontario, Canada; Sw = J. Otis Swift herbarium, New York City; Tj = University of Santo Domingo, Ciudad Trujillo, Dominican Republic; Tl = Tulane University, New Orleans, Louisiana; To = United States Field Station, Sacaton, Arizona; and Vl = Facultad de Agronomia del Valle, Valle del Cauca, Colombia. I am grateful to the curators of these herbaria for affording me the opportunity of studying and annotating their material of this group.

## LACHNOCAULON ANCEPS (Walt.) Morong

Additional citations: GEORGIA: Candler Co.: Pyron & McVaugh 688 (Gu--12632). Charlton Co.: Leeds 1288 (D--700884); Pyron & McVaugh 1497 (Gu--13934). Clay Co.: D. E. Eyles 7190 (Gu--28864). Douglas Co.: Cronquist 5424 (Gu--30340). Jeff Davis Co.: E. E. Barker s.n. [Spring, 1922] (Gu). Macon Co.: Pyron & McVaugh 498 (Gu--13106). Rabun Co.: W. H. Duncan 6614 (Gu). Richmond Co.: Cuthbert s.n. [Augusta, May 1881] (Fl--5423); W. H. Duncan 3470 (N). Screven Co.: J. M. Reade E.8370 (Gu). Taylor Co.: Pyron & McVaugh 2805 (Gu--16785). Ware Co.: W. M. Frye s.n. [Waycross, Aug. 13, 1937] (We); F. Harper 259 (D--718636). County undetermined: E. Brendel s.n. [1865] (Ur). FLORIDA: Alachua Co.: Arnold s.n. [Waldo, 7/9/31] (Fl--5438); Arnold & West s.n. [Gainesville, 12 May 1939] (Fl--5429); G. F. Weber s.n. [Fairbanks, 4-22-28] (Fl--5428, Fl--5430). Baker Co.: MacDaniels s.n. [Glen St. Mary, April 13, 1936] (Ba). Bay Co.: Banker 3582 (N). Bradford Co.: West & Arnold s.n. [Hampton, 15 May 1940] (Fl--32123). Clay Co.: W. M. Canby s.n. [Hibernia, 1869] (Cm, Pa, Pr); Leeds 1289 (D--700883). Collier Co.: W. P. Porter s.n. [Naples, July 15, 1937] (Fl--30490). Duval Co.: Curtiss 3021 (Cm, Du--254174, Or--2204), 4139 (Du--90818, Es), 4861 (Al, Es), 6201 (Fl--5433), s.n. [near Jacksonville] (Cm); Fredholm 104 (Po--119236); Lighthipe 173 (Ob--23921), s.n. [So. Jacksonville, April 13, '97] (Ur, Ur). Escambia Co.: E. Brainerd s.n. [March 18, 1907] (Vt). Franklin Co.: Saurman s.n. [Apalachicola, 1867] (Pa), s.n. [Apalachicola] (Pr). Hillsborough Co.: Britton, Britton, & Shafer 109 (Cm); A. P. Garber s.n. [Tampa, Sept. 1877] (Vt). Lake Co.: A. S. Hitchcock 10872 (Po--186159), s.n. [Eustis, June & July 1894] (Fl--5435, Ka); Nash 1942 (Es, Fl--5424); W. H. Welch 1601 (Dp--2927, N). Leon Co.: A. Wood s.n. [Tallahassee] (Pa). Manatee Co.: Cuthbert 1331 (Fl--5421, Fl--5443), 1606 (Fl--5422), s.n. [Bradenton, June 19, 1916] (Fl--5444), s.n. [Pradenton, 15 June 1919] (Fl--5426, Fl--5427); Tracy 7586 (Cm, Es). Marion Co.: Wisdale s.n. [Silver Springs, 19 April 1936] (Fl--12084). Orange Co.: O'Neill s.n. [Bithlo, June 17, 1929] (Fl--5425); Watson & Murrill s.n. [Windermere, 6/12/40] (N). Osceola Co.: Singletary s.n. [Kissimmee, Feb. 29, 1936] (H--46211); W. H. Welch 1514 (Dp--2926). Pasco Co.: McFarlin 5347 (Gg--242790); O'Neill 7786, in part (Cm, Du--271017, Gg--276710, H--57919, Mb, N). Polk Co.: O. E. Jennings s.n. [Fort Meade, late Dec. 1919] (Cm); McFarlin 4043 (Au). Putnam Co.: Laessle s.n. [Welaka, 5/3/40] (Fl--18699); West & Arnold s.n. [East Palatka, 7 June 1940] (N). Saint Johns Co.: C. Skottsberg s.n. [13.5.1935] (Go); West & Arnold s.n. [St.

Augustine, 7 June 1940] (N). Volusia Co.: E. Brainerd s.n. [March 28, 1909] (Vt); Dowell 7351 (Mb, N), 7380 (Mb, N). County undetermined: H. C. Beardslee s.n. [Wagner, 2-13-32] (Ob--94491); A. W. Chapman s.n. [Florida] (Ms, Pa, Pr, Pr); A. Gray s.n. (Br); Herb. Univ. Vermont s.n. (Vt); Stuhr s.n. [Florida, 1925] (Or--35346); West & Arnold 18 [Pinkosons Springs] (Fl--5442). ALABAMA: Mobile Co.: Jewett s.n. [Mobile, May 9, 1839] (Ur); Mackenzie 4059 (Dm); C. T. Mohr s.n. [April 1871] (Du--90819), s.n. [Mobile, 1878] (Pr), s.n. [Mobile] (Po--181953). MISSISSIPPI: Harrison Co.: Langlois s.n. [Pass Christian, 26 June 1885] (Pa). Jackson Co.: Skehan 22542 (Ur); Tracy 5031 (Dm). LOUISIANA: Natchitoches Par.: Correll & Correll 9785 (H--71751). Orleans Par.: C. Hartmann 1837 (Du). Saint Tammany Par.: Bomhard s.n. [Slidell, Apr. 25, 1929] (Cm). TEXAS: Hardin Co.: Warner s.n. [Kountze, 4/21/39] (Hu). Jasper Co.: Parks & Cory 22180 (Tr); Whitehouse s.n. [6/10/1931] (Au, Au, N). Jefferson Co.: Hooks s.n. [5/30/34] (Au), s.n. [6/7/36] (Au). Liberty Co.: Sanders & Sanders s.n. [near Romayor, 12 May 1940] (Mi). Newton Co.: Tharp 44346 (Au, N). Tyler Co.: Tharp 44343 (Au, N). County undetermined: M. C. Leavenworth s.n. (D--781695). LOCALITY OF COLLECTION UNDESIGNATED: A. W. Chapman s.n. [Southern Flora] (Pr); Herb. Chapman s.n. [Southern Flora] (Ms); Herb. Prager 2178-343 (Gg--105732).

#### LACHNOCAULON BEYRICHIANUM Sporleder

Additional citations: FLORIDA: Saint Johns Co.: M. C. Reynolds s.n. [Saint Augustine, Mar.-June 1875] (Pr).

#### LACHNOCAULON DIGYNUM Körn.

Dr. Roland M. Harper, in a letter to me dated October 29, 1948, states that there is a specimen in the herbarium of the Missouri Botanical Garden collected by himself in Charlton Co., Georgia, in 1902, labeled as L. digynum without any question, probably on the advice of the late Dr. J. K. Small. Dr. Small, however, fails to record the species from Georgia.

L. digynum has always been regarded as a valid species by all who have worked on it, with the exception of Bentham and Hooker, who, however, were not experts on the group. Monographers who have had the most experience with the group all regard it as a valid species. Körnicke in Linnaea 27: 570 (1854) states that the type specimen was collected in "Alabama", no further locality designated, and was sent by Bentham to him. The original type is in the Vienna herbarium -- possibly destroyed during the past war.

Britton in Bull. Torrey Bot. Club 19: 362 (1891) says of it: "I have not seen specimens of this. Körnicke attributes it to Alabama, from whence it was sent by Bentham. It differs, accord-

ing to Körnicke, from all the preceding species in having a two-celled ovary, two appendices, a two-parted style and bifid stigmas. It is regarded well developed, but it appears to me to come much closer to L. Beyrichianum. Fresh specimens are very desirable."

Ruhland, who next monographed the family after Körnicke, in Engler, Das Pflanzenreich 13 (4-30): 242 (1903), lists L. digy-num as his species no. 4, the last one in the genus, right after L. anceps, and gives its distribution as "Nord-Amerika: Alabama (Hb. Vindob., mis. Bentham)". He cites no other material.

In North American Flora 19: 48--49 (1937) I place the species as no. 6 in the genus, between L. beyrichianum and L. cubense, and give its distribution as "Sandy soil, often in pine-lands, Mississippi, Alabama, and Florida." In the New York Botanical Garden herbarium there are only two specimens of the species: (1) Pennell 4474 from moist sandy pineland along Rabbit Creek, Theodore, Mobile Co., Alabama, collected September 1, 1912, and (2) Lloyd & Tracy 318 from Mississippi City, Harrison Co., Mississippi, collected September 6, 1900.

Additional citations: ALABAMA: Mobile Co.: F. W. Pennell 4474 (D--631941).

#### LACHNOCAULON ECILIATUM Small

Additional citations: FLORIDA: Walton Co.: Curtiss 3022 (Pa--isotype).

#### LACHNOCAULON EKMANNII Ruhl.

Additional citations: CUBA: Pinar del Río: Carabia 748 (Cr, N), 749 (Cr), 750 (Cr); Ekman 18132 (Ha).

#### LACHNOCAULON ENGLERI Ruhl.

Specimens of this species have been identified in herbaria as L. floridanum, L. glabrum, L. beyrichianum, L. anceps, Eriocaulon pumilum Chapm., E. eleocharoides Chapm., E. ravenelii Chapm., and Trypethelium mastoideum Ach. The Chapman specimen cited below is marked "TYPE" and bears on its label both the names Eriocaulon pumilum and E. eleocharoides.

The species has been collected in anthesis in April, June, July, August, and December.

Additional citations: FLORIDA: Bay Co.: Stipe 73 (Gu--28393). Highlands Co.: Phillips & Buswell s.n. [April 9, 1939] (Bu). Lake Co.: Bright 4715 (Cm), 4716 (Dm); Nash 1184 (Es--isotype), 1293 (Es), 1295 (D--824291), 1825a (Es). Orange Co.: O'Neill s.n. [Lake Oia, July 2, 1929] (F1--5431). Osceola Co.: M. F. Baker s.n. [Aug. 13, 1935] (Bu, F1--403, Ob--94492). Pasco Co.: O'Neill 7785a (Gg--276661, N). Polk Co.: J. R. Pennell s.n.

[Frostproof, Dec. 5, 1927] (D--637460). Putnam Co.: E. West s. n. [Keystone Heights, 18 July 1937] (Fl--26980). County undetermined: Collector undesignated s.n. (Pr). LOCALITY OF COLLECTION UNDESIGNATED: A. W. Chapman s.n. (D--783988).

LACHNOCAULON FLORIDANUM Small

Additional citations: FLORIDA: Lake Co.: Nash 1981 (Es--isotype).

LACHNOCAULON GLABRUM Körn.

Numerous specimens of this species have been identified and distributed in herbaria as L. floridanum, Eriocaulon gnaphalodes Michx., or "E. ravenellii Chapm.", while the Standley specimen cited below was originally identified as E. septangulare With., then changed to E. lineare Small by Jones in 1943!

The species inhabits pinelands, palmetto hammocks, and sandridges, and has been collected in anthesis in June.

Additional citations: FLORIDA: Collier Co.: Dr. Cooper s.n. [Everglades, 1839] (Ms). Duval Co.: Curtiss 6201, in part (D--824292). Indian River Co.: J. K. Small 8838 (N). Lee Co.: Buswell s.n. [May 3, 1932] (Bu); A. S. Hitchcock s.n. [Myers, July Aug. 1900] (Ka); J. P. Standley 33 (Ur), 498 (Ba, Cm, Or--13410, Po--173099, Se--3909, Ur, Ur, Vi--15411). Levy Co.: A. P. Garber s.n. [Oct. 1877] (Pa). Manatee Co.: Rothrock s.n. [March 22, 1887] (D--824290, Pa). Okeechobee Co.: Small, Britton, Britton, & DeWinkeler 9261 (N). Palm Beach Co.: Muenschler & Muenschler 14057 (N). LOCALITY OF COLLECTION UNDESIGNATED: A. W. Chapman s.n. (Pr).

LACHNOCAULON MINUS (Chapm.) Small

Literature references: A. C. Martin, Am. Midl. Nat. 36: 533, pl. 4. 1946.

Herbarium material of this species has been distributed as L. anceps and "Paepalanthus flavidulis" in addition to the names previously recorded. It has been collected in anthesis in every month from March to November, inclusive, and in fruit in July and August. It inhabits low or wet places, wet lake-shores, low pinelands, damp pine barrens, wet sand pockets, moist sandy soil, open pinelands, the margins of ponds in dry woods, and dry sterile white sand beneath Pinus palustris and Quercus virginiana.

The endosperm morphology is discussed by Martin in the reference given above. The Canby specimen listed below looks very much like L. eciliatum. The Wiegand 7785 specimens cited below match fairly well some material cited under L. anceps; the heads on some of the peduncles are to 6 mm. broad and the peduncles to 40 cm. long. The Pl. Exsicc. Gray. 926 material cited



here also is anomalous -- its heads are rather light-colored, but are small in size as in this species. Many other specimens of this number have been cited by me as L. anceps, of which this collection may well be a depauperate form, or it may represent a hybrid between the two species.

Additional citations: NORTH CAROLINA: Bladen Co.: Buell & West 1742 (Gg--290778). Brunswick Co.: Blomquist 5742 (H-399). New Hanover Co.: W. M. Canby s.n. [prope Wilmington, Oct. 1867] (Pa); R. K. Godfrey s.n. [Pl. Exsicc. Gray. 926], in part (Au, Ba, Gg--275556, Ms, N, N); MacElwee s.n. [Wilmington, 7/95] (D-518033). Onslow Co.: Randolph & Randolph 977 (Ba). SOUTH CAROLINA: Jasper Co.: Wiegand & Manning 688 (Po--216759). GEORGIA: Chatham Co.: D. E. Eyles 6088 (Gu--28395). County undetermined: Beyrich s.n. [in Georgia Amer. sept.] (Gg). FLORIDA: Columbia Co.: W. H. Welch 1682 (Dp--2928). Duval Co.: Curtiss 6201 (Ur); H. A. Lang s.n. [Hogan, Aug. 13, 1909] (D--538004). Gadsden Co.: A. Wood s.n. [Quincy] (Pa). Gilchrist Co.: West & Arnold s.n. [Trenton, 5 Oct. 1940] (N). Highlands Co.: P. O. Schallert s.n. [7-29-40] (Bt--58010). Hillsborough Co.: A. P. Garber s.n. [Tampa, Sept. 1877] (D--824289, in part). Lake Co.: A. S. Hitchcock s.n. [Eustis, June & July 1894] (Fl--5434, Ka); Nash 148 (D--703935, Es), 1295 (D--824291, Es), 1855 (Es). Leon Co.: A. Wood s.n. [Tallahassee] (Pa). Nassau Co.: P. O. Schallert s.n. [5/4/41] (N). Orange Co.: H. C. Beardslee s.n. [Winter Park, May 1919] (Ob--94494). Pasco Co.: O'Neill 7785 (Gg--290777, N), 7786, in part (Ba); Wiegand 7785 (Au, Au). Polk Co.: P. O. Schallert s.n. [4/30/41] (Dp--30192, N). Putnam Co.: J. H. Barnhart 2117 [Herb. Barnhart 2563] (N). Seminole Co.: H. C. Beardslee s.n. [Nov. 7, 1938] (Ob--94493). Volusia Co.: Curtiss 6394 (Ka, Ur); Noble s.n. [Lake Helen, 1905] (Po--267592). Walton Co.: Curtiss 5911 (Al, Du--90820, Fl--5432, Ka, Ur).

#### LEIOTHRIX ARECHAVALETAE Ruhl.

Literature: Herter, Florula 44. 1930.

The species grows in marshy places on dunes, in the litoral association, wet sand at the edge of swamps, swampy places along sandy beaches, and especially in wet depressions between dunes. It has been found in the baffados of Pando and Carrasco, in the Parque Plata and along the banks of the Río La Plata. It has been collected in anthesis in January, February, October, and December, at altitudes of 3--4 m. above sea level. Herter describes the species as 1--2 dm. tall, with pale-brown and cream flowers. It has been mis-identified as "Paepalanthus arechavaletae Ruhl." by Lombardo.

Additional citations: URUGUAY: Herter 1774b [Herb. Herter 99363] (N); Lombardo 3436 (N); Moldenke & Moldenke 19695 (Es, N,

Ot, Sm); Osten 6409 (Go, N, N--photo, W--1175615, Z--photo);  
Rosengurtt B.1103 (N).

LEIOTHRIX ARGENTEA Alv. Silv.

Additional citations: BRAZIL: Minas Geraes: Silveira 533  
(N--photo of isotype, Vi--12424--isotype, Z--photo of isotype).

LEIOTHRIX ARRECTA Ruhl.

Additional citations: BRAZIL: Minas Geraes: Mello Barreto  
2511 [Herb. Jard. Bot. Belo Horiz. 7885] (N).

LEIOTHRIX BECKII (Szysz.) Ruhl.

Synonym: Lophophyllum itatiaiae Körn. ex V. A. Pouls., Vidensk. Meddel Kjøbenhavn 1888: 350. 1888.

Additional citations: BRAZIL: Minas Geraes: Glaziou 6741  
[Macbride photos 22283] (Kr--photo, N). Rio de Janeiro: Brade & Santos Lima 11699 [Herb. Rio de Janeiro 26710] (Ja).

LEIOTHRIX CRASSIFOLIA (Bong.) Ruhl.

Additional citations: BRAZIL: Minas Geraes: Silveira 337  
(Vi--12423).

LEIOTHRIX CURVIFOLIA (Bong.) Ruhl.

A synonym under which material of this species is often found in herbaria is Eriocaulon calocephalum Bong.

Additional citations: BRAZIL: Minas Geraes: Martius 893 (T);  
Silveira 339 (Vi--12426).

LEIOTHRIX CURVIFOLIA var. LANUGINOSA (Bong.) Ruhl.

Material of this variety is often found in herbaria under the names L. lanuginosa (Bong.) Ruhl. and Paepalanthus lanuginosa Körn.

Additional citations: BRAZIL: Minas Geraes: Berla s.n. [Herb. Rio de Janeiro 37345] (Ja, N); L. Riedel 1038 (M); Silveira 338 (Vi--12421).

LEIOTHRIX CURVIFOLIA var. PLANTAGO (Mart.) Ruhl.

Additional citations: BRAZIL: Minas Geraes: Mello Barreto 2570 [Herb. Jard. Bot. Belo Horiz. 8246] (N). State undetermined: G. Gardner 5277 (N).

LEIOTHRIX CURVIFOLIA var. SETACEA Ruhl.

Additional citations: BRAZIL: Minas Geraes: Mendes Magalhães 4334 [Herb. Jard. Bot. Belo Horiz. 45163] (N); Mexia 5799 (Gg--286187); Sampaio 6707 [Herb. Rio de Janeiro 47646] (Ja, N); Ule 2722 [Herb. Rio de Janeiro 47751] (Ja, N).

LEIOTHRIX DISTICHOCLADA Herzog

The species is recorded by Luetzelburg, Estud. Bot. do Nordeste 3: 147 & 150 (1923) from Serra Marsalina, in central Bahia, where it is said to be typical of the carrasco.

LEIOTHRIX DISTICHOCLADA f. BRACTEATA Herzog

This form is recorded by Luetzelburg, Estud. Bot. do Nordeste 3: 147 & 150 (1923) from Bom Jesus do Rio de Contas and Serra do Pinheiro, in central Bahia, where it is said to be typical of the carrasco.

LEIOTHRIX DISTICHOCLADA var. GLANDULOSA Herzog

This variety is recorded (as f. glandulosa) by Luetzelburg, Estud. Bot. do Nordeste 3: 147 & 150 (1923) from Serra das Almas, alt. 1700 m., in central Bahia, where it is said to be typical of the carrasco.

LEIOTHRIX ECHINOCEPHALA Ruhl.

Additional citations: BRAZIL: Minas Geraes: Silveira 209 (Vi—12428).

LEIOTHRIX EDWALLII Alv. Silv.

This species appears as "Paepalanthus Edwallii Alv. Silv." in Silveira's Floralia Montium, page 282 (1928), where, however, it is listed as a species (no. 6) under the genus Leiothrix and where reference is made to the earlier Flora e Serras Mineiras, page 70 (1908).

LEIOTHRIX FLAVESCENS (Bong.) Ruhl.

The species is recorded by Luetzelburg, Estudo Botanico do Nordeste 3: 148 (1923) from (1) Bom Jesus do Rio de Contas, central Bahia, (2) Serra de Itubira, central Bahia, (3) Ventania, Paraná, and (4) Gávea, alt. 800 m., Rio de Janeiro. He says that it is typical of the carrasco. It has been mis-identified in some herbaria as Paepalanthus elongatus var. pubescens Alv. Silv. Hochreutiner identified Martius 896 as "Paepalanthus sp." It has been found at altitudes of from 1025 to 2000 m., in anthesis in July and September.

Additional citations: VENEZUELA: Amazonas: Steyermark 58252 (N). Bolívar: G. H. H. Tate 1109 (Ve—18472). BRAZIL: Alagoas: G. Gardner s.n. (M). Minas Geraes: P. Clausen 1 (N); Mello Barreto 9487 [Herb. Jard. Bot. Belo Horiz. 25678] (N); Mendes Magalhães 2538 [Herb. Jard. Bot. Belo Horiz. 43813] (N), 4349 [Herb. Jard. Bot. Belo Horiz. 45201] (N); Silveira 210 (Vi—15836). São Paulo: Brade 12225 (Ja—30345), 12229 (Ja—30341); Guillemin 521 (N, N, N, N, N); W. Hoehne 765 (N, Wh, Wh); Moldenke & Moldenke 19639 (Es, F, Lg, Mg, Mr, N, N, No, Ot, S, Sm), 19641 (Es, Lg, N, Sm), 19904 (N), 19910 (Es, N, No), 19911 (Es,



Lg, Mg, N, Ot, Sm). State undetermined: Guillemin 239 (N, N);  
Martius 896 (T). BOLIVIA: El Beni: R. S. Williams 1487 (N).

LEIOTHRIX FULGIDA Ruhl.

The collection cited below was determined by Standley as Syngonanthus gracilis (Körn.) Ruhl. and will be found under that name in many herbaria.

Additional citations: BRAZIL: Minas Geraes: Mexia 5882 (Gg—286192, N).

LEIOTHRIX GOMESII Alv. Silv.

According to Silveira in Floralia Montium, page 289 (1928), a synonym is L. hirsuta var. magalhãesii Alv. Silv.

LEIOTHRIX HIRSUTA (Wikstr.) Ruhl.

This species is recorded by Luetzelburg, Estud. Bot. do Nordeste 3: 147 & 150 (1923) from Bom Jesus do Rio de Contas and Lamós in central Bahia, where it is said to be typical of the carrasco.

Additional citations: BRAZIL: Federal District: Brade 10983 (Ja—26709, N). Rio de Janeiro: Zehntner 272 (Ja—47723).

LEIOTHRIX HIRSUTA var. BLANCHETIANA (Körn.) Ruhl.

Additional citations: BRAZIL: Bahia: Blanchet 2598 (T—iso-type).

LEIOTHRIX LONGIPES Alv. Silv.

Additional citations: BRAZIL: Minas Geraes: Mendes Magalhães 2421 [Herb. Jard. Bot. Belo Horiz. 43528] (ML, N).

LEIOTHRIX LUXURIANS (Körn.) Ruhl.

Additional citations: BRAZIL: Minas Geraes: Mendes Magalhães 2540 [Herb. Jard. Bot. Belo Horiz. 43818] (N).

LEIOTHRIX NUBIGENA (Kunth) Ruhl.

Additional citations: BRAZIL: Minas Geraes: Silveira 527 (Vi—12422).

LEIOTHRIX PILULIFERA (Körn.) Ruhl.

Additional citations: BRAZIL: Alagoas: G. Gardner 1429 (N). Pernambuco: Pickel 3165 (Gg—276711, N).

LEIOTHRIX RUFULA (A. St. Hil.) Ruhl.

Synonym: Trichocalyx rufulus Kunth ex V. A. Poul., Vidensk. Meddel. Kjøbenhavn 1888: 353. 1888.

Material of this species is often found in herbaria under the name of Eriocaulon trinianum Mart.

Additional citations: BRAZIL: Rio de Janeiro: Martius 550

(T); L. Riedel s.n. (M).

LEIOTHRIX STEYERMARKII Moldenke

Additional citations: VENEZUELA: Bolívar: Steyermark 59779 (F--1205140--type, ML--photo of type, N--isotype, N--photo of type, Si--photo of type, Z--photo of type).

LEIOTHRIX TINGUENSIS Herzog

This species is recorded by Luetzelburg, Estud. Bot. do Nordeste 3: 148 (1923) from Serra de Tinguá, alt. 700 m., Bahia, where it is said to be typical of the carrasco.

LEIOTHRIX TURBINATA Gleason

This species has been collected at 1700--1980 m. altitude on Cerro Duida.

Additional citations: VENEZUELA: Amazonas: Steyermark 58180 (F--1205137).

LEIOTHRIX UMBRATILIS Moldenke

Additional citations: VENEZUELA: Bolívar: Lasser 1733 (N); Phelps & Hitchcock 380 (N); Steyermark 60280 (N--type).

LEIOTHRIX VIVIPARA (Bong.) Ruhl.

Additional citations: BRAZIL: Minas Geraes: Mello Barreto 2513 [Herb. Jard. Bot. Belo Horiz. 8281] (N), 9445 [Herb. Jard. Bot. Belo Horiz. 24636] (N); Mexia 5781 (Gg--286184); L. Riedel 582 (M--isotype).

MESANTHEMUM AFRICANUM Moldenke

Additional citations: SOUTHERN RHODESIA: F. W. J. McCosh 2 [Govt. Herb. Salisbury 17692] (K, Rh). PORTUGUESE EAST AFRICA: Gazaland: Munch 72 [Govt. Herb. Salisbury 20996] (N--type, Rh--isotype). Mozambique: W. H. Johnson 243 (K).

MESANTHEMUM PRESCOTTIANUM (Bong.) Körn.

Additional citations: IVORY COAST: Scaetta 3098 [139] (An, An, F--photo, N, N--photo, Sg--photo, Z--photo).

MESANTHEMUM RADICANS Körn.

Additional citations: ANGOLA: Kongo: Gosswiller 9153 (F--photo, N, N--photo, Sg--photo, W--1373590, Z--photo).

MESANTHEMUM RUTENBERGIANUM Körn.

Terrac in Trav. Lab. Mat. Med. 33 (3): 107 (1947) reports that this species -- under the synonymous name M. platyphyllum Baker -- is employed medicinally by natives in the areas where it grows. They take the leaves cooked with rice during their pregnancy in order to avoid any accidents during the period of

their lying-in. This decoction is also employed as a sedative,<sup>RS</sup> astringent in cases of diarrhea, and as an aromatic.

Additional citations: MADAGASCAR: Hildebrandt 3714 (F—photo, N, N—photo, Sg—photo, W—808234, Z—photo).

PAEPALANTHUS Mart.

Original publication: Mart., Nova Acta Physico-med. Acad. Caes. Leopold.-Carol. Nat. Cur. 17 (1): 13. 1835.

Synonyms: Dupatya Vell., Fl. Flum. 35. 1825 [nomen rejiciendum]. Stephanophyllum Guill. in Deless., Icon. Sel. 3: 61, pl. 98, in obs. 1837. Cladocaulon G. Gardn. in Hook., Icon. Pl. pl. 528. 1843. Limnoxeranthemum Salzm. ex Steud., Syn. Pl. Cyp. 2: 281, in syn. 1855. — I regard Lasiolepis Böck. as a generic synonym of Eriocaulon, instead of placing it as synonymous "in part" with Eriocaulon and "in part" with Paepalanthus, as Ruhland does. In the original publication, Flora 56: 90--91 (1873) — not "41" as stated in some works — three species are described, but none is designated as the type species. These 3 species are: 1. L. brevifolia, 2. L. pilosa, and 3. L. aquatica. L. brevifolia is synonymous with Eriocaulon lasiolepis Ruhl., L. pilosa with Paepalanthus lamarckii, and L. aquatica with Eriocaulon melanocephalum. In cases such as this it is the common practice to regard the first-described species as the type species. Following this practice here, Lasiolepis becomes a synonym of Eriocaulon, not of Paepalanthus.

Literature: Massart & al., Mission Biol. Belge au Brésil 1922-23, 1: fig. 392. 1929; F. C. Hoehne, Bot. e Agr. Bras. Sec. XVI: 52--53 & 345. 1937; H. P. Veloso, Memorias de Instituto Oswaldo Cruz 46 (1): 109, fig. 8. 1948.

The illustration in the Veloso publication cited above shows a 6-foot tall specimen of an unidentified species of Paepalanthus.

PAEPALANTHUS ACANTHOPHYLLUS Ruhl.

The species is recorded by Luetzelburg, Estudo Botanico do Nordeste 3: 148 (1923) from Serra de Ituhita in central Bahia, where he says it is typical of the carrasco and constitutes 10 percent of the total vegetation!

Additional citations: BRAZIL: Goyaz: Glaziou 22323 (N--isotype).

PAEPALANTHUS ACUMINATUS Ruhl.

Additional citations: BRAZIL: Minas Geraes: Magalhaes s.n. [Herb. Silveira 240] (Vi--15831--isotype).

PAEPALANTHUS AEQUALIS (Vell.) J. F. Macbr.

The Gardner collection cited below is cited by Ruhland under the synonymous name of P. blepharocnemis Mart.

Additional citations: BRAZIL: Minas Geraes: G. Gardner 5267 (N). São Paulo: Brade 5530 [Herb. Inst. Bot. S. Paulo 6584] (N), 12230 (Ja--30340).

PAEPALANTHUS ALBO-TOMENTOSUS Herzog

The species is recorded by Luetzelberg, Estudo Botanico do Nordeste 3: 148 (1923) from Alto Rio Bromado, Alto Rio de Contas, and Serra das Almas, alt. 1800 m., all in central Bahia, where it is said to be typical of the carrasco and frequent in the brejo.

PAEPALANTHUS ALBO-VAGINATUS Alv. Silv.

Additional citations: BRAZIL: Paraná: Hatschbach 997 (N), 1461 (N).

PAEPALANTHUS ALPINUS Körn.

The species is described by Balls as having stiff upright "stems" to 10 inches tall, basal rosettes of spear-shaped leaves to 8 inches across, and gray-white flowers in dense round heads to 1 inch across. It inhabits moist or boggy soil on open sunny slopes, altitude 3300--3500 m., blooming in December and March. The young leaves of the Killip collection cited below are very hairy.

Additional citations: COLOMBIA: Boyacá: Linden 1310 (Br--isotype, N--fragment of isotype, N--photo of isotype, Z--photo of isotype), s.n. [Tunja, Mars 1843] (Br). Cundinamarca: Balls 5759 (W--1777707); Garcia Barriga 1610 (W--1851737); Killip 34120 (N).

PAEPALANTHUS ALSINOIDES C. Wright

Literature reference: Alain, Contrib. Ocas. Mus. Hist. Nat. Coleg. La Salle 7: 114. 1946.

The species grows in white siliceous sand on savannas. It has been collected in anthesis, in addition to the months previously reported, in May and November.

Additional citations: CUBA: Pinar del Río: Acufia 10975 (Es); Carabia 745 (Cr, N), 747 (Cr, N), 3868 (Cr, N); Ekman 17918 [Herb. Roig 2834] (Es), x (Ha), s.n. [Herb. Est. Cent. Agron. 8310] (Es); León & Alain 17797 (N); León, Victorin, & Alain 17797 (N); Moldenke & Moldenke 19881 (Es, F, Lg, Mg, Mr, N, No, Ot, S, Sm); Moldenke, Moldenke, León, Alain, & Acufia 15268 (Es, Es); C. Wright 3743 (Pa--isotype).

PAEPALANTHUS ALSINOIDES var. MINIMUS Jennings

Literature: Alain, Contrib. Ocas. Mus. Hist. Nat. Coleg. La Salle 7: 47. 1947.

This diminutive variety inhabits sandy soil and is endemic to the Isle of Pines and western Cuba.